

Name: Gary McVittie

Job title: Industrial Refrigeration Design Engineer employed by Star Refrigeration

Please give a brief summary of your job role.

Each contract a design engineer is involved in begins with a handover meeting with the sales engineer to discuss the scope of the job. From there we carry out design calculations, create drawings and bills of materials, procure equipment and support the factory engineers, project managers, site managers and commissioning engineers throughout the course of the project. With my background in service engineering and competence in electrical engineering I have also developed a role in writing electrical specifications which we issue to our PLC programming department or outside controls contractor, electrical panel builder and site wiring sub-contractor to outline the electrical requirements of the contract.

Why did you choose a career in the refrigeration and air conditioning industry?

I would not say I chose a career in refrigeration, although engineering has always been my desired career path. My mother has worked as a sales engineer in refrigeration for over 20 years and when I was in high school Star Refrigeration kindly allowed me to do a week work experience in their factory.

Following high school I was at college and was seeking summer employment and Star kindly allowed me to come back to work for the whole summer.

After college was complete I was at a loss as to where to go next and decided to see if the factory was interested in my services permanently, at this point I was 18 and concerned I would be too old to be taken on as an apprentice. Fortunately Star were looking for an apprentice service engineer at the time and following an interview I was taken on as a branch apprentice service engineer in Oct 2000.

What qualifications do you have?

BEng(Hons) Building Services Engineering – Pending

BSc Building Services Engineering

NVQ L3 (Ammonia) Refrigeration and Air Conditioning

What do you most enjoy about your job?

The variety and versatility of refrigeration, essentially a vapour compression cycle consists of 4 main components (compressor, condenser, metering device and evaporator). This basic system can be tweaked, adjusted, added to and developed to carry out its function in a number of different ways.

Having worked mostly in the industrial sector of the industry I have good knowledge of natural refrigerants (Ammonia, Propane and CO₂).

The challenge of understanding and being able to diagnose, design and engineer these systems perform to the best of their abilities is a world where today energy efficiency and climate consideration is paramount helps make my job interesting and enjoyable.

Can you describe a typical working day?

For the past 2 years my typical day has been seated at a desk sending e-mails, making calls, carrying out design calculations, checking and marking up drawings, documents and letters.

Checking progress in our factory, on site and ensuring everything runs smoothly.

I do miss the flexibility of being a service engineer and at times I once felt like the spanner monkey in an office mainly populated by graduate engineers but I've now completed my degree and have gained a lot of knowledge over the past couple of years.

How do you see your career developing in the future?

My all time high comes from being involved in operations and working hands on with refrigeration plant and equipment but I wouldn't want to be on the tools until I'm 65. Having

completed my degree and worked for a few years in the design office I have broadened my knowledge and experience and hope to widen this further over the years to come. I have an interest in visiting Australia as a personal thing and if I could use my background as a way of getting over and perhaps working with a big refrigeration company like Gordon Refrigeration to further expand my knowledge and experience.

What particularly excites you about your job?

I would probably say that what I enjoy about my job is also what excites me about my job. Every refrigeration system has its own little unique differences and there are so many different applications for refrigeration. Most people complacently rely on refrigeration not fully understanding the engineering involved, and without such systems our lives would not be as convenient.

Working on development projects with a company geared very much on energy efficiency and climate consideration is also particularly exciting.

What advice would you give to someone interested in a career in the refrigeration industry?

Be prepared to learn and learn by doing. If something seems obvious explore all alternatives before making your decision, even though more often that not your initial thought or idea is the correct one.

In your opinion what are the biggest challenges and opportunities faced by the refrigeration industry?

The environment, energy efficiency and climate change.

Refrigeration has gotten a lot of bad press over the years with the finger being pointed at it for carbon emissions and the use of CFC refrigerants. The industrial refrigeration industry has already taken big steps to rectify this situation the commercial industry is now taking advice from industrial companies on how to develop and work safely with the potentially more dangerous natural refrigerants.